East San Joaquin Water Quality Coalition
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November 7, 2012

Pamela Creedon, Executive Officer
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

Dear Ms. Creedon,

The East San Joaquin Water Quality Coalition (Coalition) is submitting a request to remove monitoring requirements for specific constituents from selected site subwatershed management plans and therefore from the site's Management Plan Monitoring (MPM) schedule. The Coalition's Management Plan process outlined in the Coalition's original Management Plan (approved November 25, 2008, Figure 2) and updated in the Management Plan Update Report for 2010 (Figure 1, page 17) outlines that if the Coalition performs two or more years of Management Plan Monitoring with no exceedances, there is the opportunity to petition the Regional Board for removal of analytes from the Management Plan.

The basis for the request is two consecutive years of monitoring at a site subwatershed with no exceedances of a specific constituent indicating improved water quality due to implemented management practices by growers in the subwatershed. If approved, the Coalition will remove the constituents from management plans in Bear Creek @ Kibby Rd (copper), Berenda Slough along Ave 18 ½ (*Selenastrum capricornutum* toxicity), Cottonwood Creek @ Rd 20 (chlorpyrifos), Deadman Creek @ Hwy 59 (*Selenastrum capricornutum* water column toxicity), Dry Creek @ Rd 18 (diazinon and diuron), Duck Slough @ Gurr Rd (*Ceriodaphnia dubia* water column toxicity), Highline Canal @ Hwy 99 (*Hyalella azteca* sediment toxicity and *Ceriodaphnia dubia* water column toxicity), Highline Canal @ Lombardy Rd (chlorpyrifos, *Hyalella azteca* sediment toxicity and *Ceriodaphnia dubia* water column toxicity) and Prairie Flower Drain @ Crows Landing Rd (*Hyalella azteca* sediment toxicity). However, the Coalition will monitor these locations for the specific constituents when each site rotates into Assessment Monitoring. Supporting documentation for this request is included on the following pages.

If necessary, we can schedule a meeting to discuss this request at your earliest convenience.

Submitted respectfully,

Parry Klassen
Executive Director
East San Joaquin Water Quality Coalition

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INTRODUCTION

When a constituent becomes the focus of the ESJWQC Management Plan, the Coalition initiates actions to address the exceedances including focused outreach and additional Management Plan Monitoring (MPM) during months of past exceedances. The ESJWQC Management Plan includes a flow chart which describes the process by which the Coalition conducts monitoring, source identification, as well as outreach and evaluation of implemented management practices. In 2007, the Coalition initiated general outreach to growers including information and outreach materials about management practices that could be implemented to reduce the impact of agriculture on water quality. Initial focused outreach began in 2008 and sufficient water quality data for a subset of subwatersheds has been collected on constituents to document improved water quality. Therefore, the Coalition is requesting the removal of the constituents at the specific site subwatersheds listed in Table 1.

Table 1. ESJWQC site subwatersheds, Assessment Monitoring history and constituents to remove from active management plan and Management Plan Monitoring schedule.

Site Subwatershed	Most Recent Assessment Monitoring	Future Assessment Monitoring	Copper (Total & Dissolved)	Chlorpyrifos	Lead (Total & Dissolved)	Diazinon	Diuron	*Ceriodaphnia dubia* Toxicity	*Hyalella azteca* Toxicity	*Selenastrum capricornutum* Toxicity
Bear Creek @ Kibby Rd	2008†	2023	X							
Berenda Slough along Ave 18 1/2	2012	2017								X
Cottonwood Creek @ Rd 20	2011	2014		X						
Deadman Creek @ Hwy 59	2012	2017								X
Dry Creek @ Rd 18	2008†	2013				X	X			
Duck Slough @ Gurr Rd	2011	2014						X		
Highline Canal @ Hwy99	2011	2014							X	X
Highline Canal @ Lombardy Rd	2012	2017		X				X	X	
Livingston Drain @ Robin Ave	2008†	2021			X					
Prairie Flower Drain @ Crows Landing Rd	2011	2014							X	
		Total	**1**	**2**	**1**	**1**	**1**	**2**	**3**	**3**

†Site was monitored for Assessment Monitoring constituents under the 2006 MRPP where monitoring was not defined as Core or Assessment Monitoring.

To support the Coalition's request, data are provided for each constituent documenting improvement in water quality and successful outreach. For each site subwatershed, the Coalition provides the following:

1.) Constituent overview, monitoring history, summary of monitoring data relevant to specific constituents, potential sources of exceedances and review of available/applicable PUR data,

2.) Summary of outreach and management practice implementation,

3.) Schedule for future monitoring, and

4.) Justification for request to remove constituent(s) and review of how the Coalition has met the requirements for removal as outlined in the Coalition's Management Plan Monitoring Strategy and Management Practice Evaluation flowchart (ESJWQC Management Plan originally approved on November 25, 2008, Figure 2, page 23 and updated in the ESJWQC Management Plan Update Report for 2010, Figure 1, page 17).

SUPPORTING DOCUMENTATION TO REMOVE SPECIFIC CONSTITUENTS FROM SITE SUBWATERSHED MANAGEMENT PLANS

Bear Creek @ Kibby Rd

Constituents Requested to Remove from Management Plan:

- Copper (Total and Dissolved)

Subwatershed Overview and Monitoring History

Under the current 2008 MRPP, the Bear Creek @ Kibby Rd site subwatershed is a rotating Assessment Monitoring location within the Merced River @ Santa Fe Zone (Zone 4). Sampling was initiated at Bear Creek @ Kibby Rd during the storm season of 2005 and continued through irrigation season of 2008. Assessment Monitoring under the current 2008 MRPP at Bear Creek @ Kibby Rd is scheduled to occur in 2023 through 2024.

The Bear Creek @ Kibby Rd site subwatershed is one of the Coalition's second set of high priority management plan subwatersheds (focused outreach 2010-2012). Management Plan Monitoring for copper at Bear Creek @ Kibby Rd occurred in 2010 (August), 2011, and 2012 (January, February and August). There were no samples collected at this site during 2009. The Coalition identified growers with the greatest likelihood of contributing to the water quality impairments (growers farming parcels with the potential for direct drainage or drift to the creek and growers who have applied high priority constituents in the past). The Coalition contacted these growers in 2010 to document current management practices and encouraged the implementation of additional practices designed to eliminate water quality impairments in Bear Creek. The Coalition contacted targeted growers in 2011 to determine which additional management practices were implemented.

Constituent Monitoring Results and Sourcing

Copper

Copper is routinely used by agriculture on a number of crops and may be found in surface waters as a result of applications. In October 2008, the Coalition began monitoring for both the total and dissolved copper fractions to better characterize copper contamination and more accurately estimate the bioavailable fraction of metal in the water column. Samples containing copper exceeded the hardness based WQTL four times in the Bear Creek @ Kibby Rd subwatershed in 2007 (February) and in 2008 (January, February and August). All four of the copper exceedances were based on measurement of the total fraction and occurred before the Coalition began monitoring for both the total and dissolved fractions.

Copper was added to the Bear Creek @ Kibby Rd management plan in 2008 as a result of the second exceedance in January 2008. Management Plan Monitoring for copper occurred in 2010 (August), 2011 (January, February and August) and in 2012 (January, February and August) and no exceedances occurred during any of the events. Since the August 2008 exceedance, copper has been monitored eight times, once in September of 2008 Normal Monitoring and seven times during MPM in months of past

exceedances (January, February and August). No exceedances of the copper WQTL occurred in any of the MPM samples collected from Bear Creek @ Kibby Rd in 2010 (August) or in 2011-2012 (January, February and August).

Copper MPM in 2012 concluded two consecutive years of monitoring with no copper exceedances at Bear creek @ Kibby Rd. Normal storm and irrigation monitoring occurred in 2005 through 2008. The Coalition also conducted 37 MPM sampling events for copper in 2010 (August) and 2011 through 2012 (January, February and August). Copper was sampled during one MPM event in 2010 and during three MPM events in 2011 and 2012. No exceedances of the copper occurred during any of the MPM events. The end of two consecutive years of monitoring during months of past exceedances was February 2012.

Outreach

The Coalition initiated outreach in 2007 and has since taken several actions to address water quality concerns in Bear Creek @ Kibby Rd subwatershed. The Coalition conducted individual meetings with 14 growers in 2010 to review each grower's operation, document current management practices, and discuss water quality impairments, including lower priority management plan constituents. The Coalition encouraged growers to evaluate their farming operations to eliminate offsite movement of pesticides. Management practices were recommended if they could be effective in eliminating/reducing agricultural discharges. All targeted growers were contacted again in 2011 to determine if recommended and/or new practices were implemented.

The Coalition continues to provide outreach to all members within the Bear Creek @ Kibby Rd site subwatershed. Through grower notifications and meetings, members continue to be informed of water quality results, relevant management practices to address water quality concerns, availability of funding for management practice implementation, results of studies of management practice efficacy, and management practice implementation and tracking activities. In addition, Bear Creek @ Kibby Rd remains a high priority subwatershed for other constituents and outreach continues with growers who have the greatest likelihood of contributing to exceedances.

Future Monitoring

Assessment Monitoring is scheduled for Bear Creek @ Kibby Rd in 2023 through 2024. During this time, the Coalition will monitor monthly for copper (total and dissolved).

Justification to Remove Constituent from Bear Creek @ Kibby Rd Management Plan

Based on outreach survey and follow up results, targeted growers in the Bear Creek @ Kibby Rd subwatershed implemented management practices and improved water quality as reflected by the absence of exceedances of copper. Management Plan Monitoring results indicate two consecutive years of no exceedances for copper (total and dissolved). Therefore the Coalition requests that copper be removed from the Bear Creek @ Kibby Rd management plan and MPM schedule.

Berenda Slough along Ave 18 ½

Constituents Requested to Remove from Management Plan:

- *Selenastrum capricornutum* water column toxicity

Subwatershed Overview and Monitoring History

Under the 2008 MRPP, Berenda Slough along Ave 18 ½ site subwatershed is a rotating Assessment Monitoring location in the Cottonwood Creek @ Rd 20 Zone (Zone 6). Monitoring at Berenda Slough was initiated during the irrigation season of 2006 and continued through the 2008 irrigation season. Berenda Slough along Ave 18 ½ includes an upstream location (Berenda Slough @ Rd 19) which was sampled during the irrigation season 2008. The site rotated into Assessment Monitoring in 2011 through 2012.

The Berenda Slough along Ave 18 ½ site subwatershed is one of the Coalition's third set of high priority management plan subwatersheds (focused outreach 2011-2013). Management Plan Monitoring for high priority constituents occurred from 2011 through 2012 during months of past exceedances. In addition, the Coalition identified growers with the greatest likelihood of contributing to the water quality impairments. The Coalition contacted these growers in 2011 and 2012 to document management practices and encouraged the implementation of additional management practices designed to eliminate water quality impairments. The Coalition followed up with targeted growers to determine which additional management practices were implemented.

Constituent Monitoring Results and Sourcing

***Selenastrum capricornutum* water column toxicity**

Water column toxicity to *S. capricornutum* is indicative of herbicides, algaecides or fungicides in surface waters. *S. capricornutum* water column toxicity occurred three times in the Berenda Slough along Ave 18 ½ subwatershed, all toxic samples were collected during the irrigation season of 2007 (May and July). During May 2007, the sample tested toxic to *S. capricornutum* (78% growth compared to control); since algae growth was not less than 50% compared to the control a TIE was not required. Samples collected during July 2007 tested toxic to *S. capricornutum* (12% growth compared to control) and toxicity was persistent in the resample (70% growth compared to control); the TIE indicated that the toxicity was caused by non-polar organics and metals. The May 2007 *S. capricornutum* toxicity coincided with the only diuron (3.2 μg/L) exceedance to have ever occurred at the site.

Since the most recent toxicity in July 2007, the Coalition has monitored Berenda Slough along Ave 18 ½ a total of 31 times for *S. capricornutum* toxicity. Of the 31 events, 14 were dry and six were from months of past toxicity; none of the samples collected caused toxicity. Sampling included Normal Monitoring in 2008 and Assessment Monitoring in 2011 through 2012. The end of two consecutive years of monitoring during months of past exceedances for algae toxicity was July 2012.

Outreach

The Coalition initiated outreach in 2007 and has since taken several actions to address water quality concerns in Berenda Slough @ Ave 18 ½ subwatershed. The Coalition conducted individual meetings with 19 growers in 2011 and 2012 to review each grower's operation, document current management practices and discuss water quality impairments, including *S. capricornutum* water column toxicity. The Coalition encouraged growers to evaluate their farming operations to eliminate offsite movement of pesticides, and management practices were recommended that are effective in eliminating agricultural discharges. Three targeted growers required a follow up contact to assess if recommended and/or new practices were implemented.

The Coalition continues to provide outreach to all members within the subwatershed. Through grower notifications and meetings, members remain informed of water quality results, relevant management practices that can eliminate water quality impairments, availability of funding to assist in the implementation of management practices, results of studies of management practice efficacy, and management practice implementation and tracking activities. In addition, this subwatershed remains a high priority subwatershed for other constituents and outreach continues with growers who have the greatest likelihood of contributing to those exceedances.

Future Monitoring

Assessment Monitoring at this site occurred in 2011 and 2012 and is scheduled again in 2017 and 2018. During this time, the Coalition will monitor monthly for *S. capricornutum* water column toxicity. In addition, MPM is scheduled to take place for other high priority constituents in 2013 during months of past exceedances to assess water quality.

Justification to Remove Constituents from Berenda Slough along Ave 18 ½ Management Plan

Management Plan Monitoring results indicate two consecutive years of no *S. capricornutum* water column toxicity. Therefore the Coalition requests that *S. capricornutum* water column toxicity be removed from the Berenda Slough along Ave 18 ½ management plan and MPM schedule.

The Coalition believes its outreach within the Berenda Slough along Ave 18 ½ subwatershed will continue to improve grower awareness regarding potential agricultural water quality impairments. In addition, the Coalition will continue MPM at the site for other high priority constituents and is scheduled to conduct monthly Assessment Monitoring for all constituents again in 2017 and 2018 which will allow the Coalition to continue evaluating water quality at the Berenda Slough along Ave 18 ½ site subwatershed.

Cottonwood Creek @ Rd 20

Constituents Requested to Remove from Management Plan:

- Chlorpyrifos

Subwatershed Overview and Monitoring History

Under the current ESJWQC 2008 MRPP, Cottonwood Creek @ Rd 20 is the Core Monitoring location in Zone 6. Monitoring at Cottonwood Creek @ Rd 20 began during the storm season of 2005 and continued through winter 2012. In 2006, 2007 and 2008 normal irrigation and storm monitoring took place. Core constituents were monitored at Cottonwood Creek @ Rd 20 beginning in the fall of 2008 through the fall 2010. The Cottonwood Creek @ Rd 20 subwatershed includes an upstream location (Cottonwood Creek @ Hwy 145) which was sampled during the irrigation season of 2008. Assessment Monitoring was initiated in 2011 and is scheduled to occur every third year thereafter (2014, 2017). Core Monitoring occurred during the winter season of 2012 and will resume at this site in 2013.

The Coalition began conducting outreach and education in the Cottonwood Creek @ Rd 20 subwatershed in 2007. Management Plan Monitoring for high priority constituents occurred in 2007 and 2008. During 2009, Core Monitoring took place and no MPM samples were collected (five dry and one event with non contiguous puddles). Beginning in January 2010, the Coalition initiated additional MPM during the months of January, February and March (previously MPM was limited to irrigation months). The Coalition conducted MPM for chlorpyrifos in 2010 (January and February; the February event was dry), during Assessment Monitoring in 2011 (January and February) and in 2012 (both January and February events were dry). Cottonwood Creek @ Rd 20 is one of the Coalition's second set of high priority management plan subwatersheds (focused outreach 2010-2012). Management Plan Monitoring for high priority management plan constituents occurred from 2010 (Year 1), 2011 (Year 2), and January through March 2012 (Year 3) during months of past exceedances. During MPM for chlorpyrifos in 2010 through 2012, the site was dry three times. Assessment Monitoring occurred during every month of the year in 2011, and the site was dry in November and December.

The Coalition identified growers with the greatest likelihood of contributing to the water quality impairments. The Coalition contacted these growers in 2009 and 2010 to document existing management practices and encouraged the implementation of additional management practices designed to eliminate water quality impairments. The Coalition followed up with targeted growers in 2011 to determine which additional management practices were implemented.

Constituent Monitoring Results and Sourcing

Chlorpyrifos

The Regional Board established a TMDL for chlorpyrifos for the ESJWQC region (Lower San Joaquin River Chlorpyrifos and Diazinon TMDL); consequently, chlorpyrifos is considered one of the highest priority constituents under the Coalition's Management Plan. Three exceedances of the chlorpyrifos WQTL have occurred at Cottonwood Creek @ Rd 20 in 2008 (January and February) and in 2010 (January).

Beginning in October 2008, only Core Monitoring constituents were sampled. In January and February 2010 MPM was initiated for chlorpyrifos. Since the last exceedance of chlorpyrifos in January 2010, Cottonwood Creek @ Rd 20 has been monitored for chlorpyrifos 15 times. Storm samples were collected during two of those events (April 2010 and February 2011). In 2010, MPM occurred during months of past exceedances in 2010 (January and February), Assessment Monitoring in 2011 (monthly) and MPM in 2012. The site was dry during 2012 (January and February) MPM events. No exceedances of the chlorpyrifos WQTL occurred in any samples collected from Cottonwood Creek @ Rd 20 since the last exceedance occurred in January 2010. The PUR data indicate a decreasing trend in pounds of chlorpyrifos applied in the subwatershed from 2006 through 2008. Applications of chlorpyrifos increased between 2010 (1,781 lbs AI across 998 acres) and the end of 2011 (3,820 lbs AI across 1087 acres) although there have been no exceedances to occur in the subwatershed since January 2010 due to improved grower awareness and implementation of management practices. The end of two consecutive years of monitoring during months of past exceedances was January 2012.

Outreach

The Coalition initiated outreach in 2007 and has taken several actions to address water quality impairments in the Cottonwood Creek @ Rd 20 subwatershed. The Coalition conducted individual meetings with 25 growers in 2009 and 2010 to review each grower's operation and document current management practices as well as discuss water quality impairments. The Coalition encouraged growers to evaluate their farming operations to eliminate offsite movement of pesticides. Management practices were recommended to eliminate agricultural discharges. All targeted growers were contacted again in 2011 to assess if recommended and/or new practices were implemented.

The Coalition continues to provide outreach to all members within the Cottonwood Creek @ Rd 20 subwatershed. Through grower notifications and meetings, members continue to be informed of water quality results, management practices to eliminate water quality impairments, availability of funding for management practice implementation, results of studies of management practice efficacy, and management practice implementation and tracking activities. In addition, Cottonwood Creek @ Rd 20 remains a high priority subwatershed for other constituents and outreach continues with growers who have the greatest likelihood of contributing to exceedances.

Future Monitoring

Core Monitoring is scheduled to resume at Cottonwood Creek @ Rd 20 in 2013. Assessment Monitoring is scheduled again for 2014. Management Plan Monitoring will continue to take place for high priority constituents during months of past exceedances through 2012.

Justification to Remove Constituents from Cottonwood Creek @ Rd 20 Management Plan

The Coalition's outreach resulted in implementation of management practices and increased grower awareness of water quality concerns. Results from MPM demonstrate at least two consecutive years of no exceedances of the WQTLs for chlorpyrifos. Monthly Assessment Monitoring in 2014 will include the monitoring of chlorpyrifos and will allow the Coalition to further evaluate water quality in Cottonwood

Creek @ Rd 20. Therefore, the Coalition requests that chlorpyrifos be removed from the Cottonwood Creek @ Rd 20 management plan and MPM schedule.

Deadman Creek @ Hwy 59

Constituents Requested to Remove from Management Plan:

- *Selenastrum capricornutum* water column toxicity

Subwatershed Overview and Monitoring History

Under the current ESJWQC 2008 MRPP, Deadman Creek @ Hwy 59 became a rotating Assessment Monitoring location in the Duck Slough @ Gurr Rd Zone (Zone 5). Monitoring at Deadman Creek @ Hwy 59 began during the irrigation season of 2006. Normal Monitoring was conducted during the storm and irrigation seasons of 2007 and 2008. Management Plan Monitoring was scheduled for April 2009 and January 2010; the site was dry during both events. Assessment Monitoring occurred during 2011 and 2012; the site was dry in May and August of 2012. Monitoring for *S. capricornutum* water column toxicity occurred at the site during five irrigation seasons, four storm seasons, two winter seasons and one fall season.

Deadman Creek @ Hwy 59 is one of the Coalition's forth set of high priority management plan subwatersheds (focused outreach 2012-2014). From 2009 through 2012, MPM occurred for high priority management plan constituents during months of past exceedances. In addition, the Coalition identified growers with the greatest likelihood of contributing to *S. capricornutum* water column toxicity including growers farming parcels with the potential for direct drainage to the creek and growers who applied constituents in the past capable of causing toxicity to Selenastrum. The Coalition initiated contacts with targeted growers in Deadman Creek @ Hwy 59 subwatershed in 2012 to document existing management practices and encourage the implementation of additional management practices designed to eliminate water quality impairments.

Constituent Monitoring Results and Sourcing

***Selenastrum capricornutum* water column toxicity**

Water column toxicity to *S. capricornutum* is indicative of herbicides, algaecides or fungicides in surface waters. *S. capricornutum* water column toxicity occurred three times in the Deadman Creek @ Hwy 59 subwatershed, all toxic samples were collected during the storm and irrigation seasons of 2008 (January, April and May). During January 2008, the sample tested toxic to *S. capricornutum* (44% growth compared to control); since algae growth was less than 50% compared to the control a TIE was required and the results indicated that non-polar organics were the cause of toxicity. Samples collected during April 2008 also tested toxic to *S. capricornutum* (71% growth compared to control) and toxicity was persistent in the resample (42% growth compared to control); a TIE was not conducted because the samples were inadvertently discarded. The January 2008 *S. capricornutum* toxicity coincided with the only diuron (6.2 μg/L) and simazine (25 μg/L) exceedances at the site and the April 2008 toxicity coincided with an arsenic exceedance.

Since the toxicity in May 2008, the Coalition has monitored Deadman Creek @ Hwy 59 a total of 27 times for *S. capricornutum* toxicity and no samples resulted in toxicity (of the 27 monitoring events, four were dry and six were from months of past toxicity). Sampling included Normal Monitoring in 2008,

MPM in 2009 and 2010 as well as Assessment Monitoring in 2011 through 2012. The end of two consecutive years of monitoring during months of past exceedances for algae toxicity was April 2012.

Outreach

The Coalition initiated outreach in 2007 and has taken several actions to address water quality impairments in the subwatershed. Through Coalition mailings and meetings/workshops, growers were made aware of downstream water and sediment quality impairments as well as the importance of implementing management practices on their farms. During outreach the Coalition encourages growers to evaluate their farming operations in order to eliminate offsite movement of pesticides. The Coalition continues outreach and education in the subwatershed to keep growers informed of emerging water quality concerns and relevant regulations, opportunities for funding the implementation of management practices, and results of special studies such as management practice efficacy.

The Coalition continues to provide outreach to all members within the Deadman Creek @ Hwy 59 site subwatershed. This subwatershed began high priority MPM in 2012 (Year 1) and monitoring will continue through 2014 for other constituents of concern. Focused outreach will continue with growers with the greatest likelihood of contributing to those exceedances.

Future Monitoring

Assessment Monitoring is scheduled in Deadman Creek @ Hwy 59 for 2017 and 2018. Management Plan Monitoring is scheduled to take place for high priority constituents during months of past exceedances from 2012 through 2014 to assess the effect of outreach on water quality.

Justification to Remove Constituents from Deadman Creek @ Hwy 59 Management Plan

The Coalition's outreach resulted in the implementation of new management practices as well as increased grower awareness of the role of agriculture in causing water quality impairments. Monitoring in Deadman Creek @ Hwy 59 indicate two consecutive years without exceedances. Therefore, the Coalition requests that *S. capricornutum* toxicity be removed from the Deadman Creek @ Hwy 59 Management Plan and from the MPM schedule.

Dry Creek @ Rd 18

Constituents Requested to Remove from Management Plan:

- Diazinon
- Diuron

Subwatershed Overview and Monitoring History

The Dry Creek @ Rd 18 site subwatershed is a rotating Assessment Monitoring location in the Cottonwood Creek Zone (Zone 6). Monitoring at Dry Creek @ Rd 18 was initiated during the irrigation season of 2005 and continued through the irrigation season of 2008. In 2011 through winter 2012, MPM occurred during months of past exceedances. Assessment Monitoring is schedule for 2013 and 2014 at this site. Additional monitoring occurred at the site in 2007, and an upstream location, Dry Creek @ Rd 22 was sampled for management plan constituents during 2008.

The Dry Creek @ Rd 18 site subwatershed is one of the Coalition's third set of high priority management plan subwatersheds (focused outreach 2011-2013). The Coalition identified growers with the greatest likelihood of contributing to the water quality impairments (growers farming parcels with the potential for direct drainage to the creek and growers who have applied high priority constituents in the past). The Coalition contacted these growers in 2010 and 2011 to document existing management practices and encouraged the implementation of additional management practices designed to eliminate water quality impairments. The Coalition followed up with targeted growers to determine which additional management practices were implemented.

Constituent Monitoring Results and Sourcing

Diazinon

The Regional Board established a TMDL for diazinon for the ESJWQC region (Lower San Joaquin River Chlorpyrifos and Diazinon TMDL); consequently, diazinon is considered one of the highest priority constituents under the Coalition's Management Plan. There have been two exceedances of the diazinon WQTL at Dry Creek @ Rd 18, both in February of 2007 and 2008.

In February 2011 MPM was initiated for diazinon. Since the last exceedance of the diazinon WQTL in February 2008, the Dry Creek @ Rd 18 monitoring location has been sampled for diazinon eight times; two of those samples were collected during the month of the past exceedances, and one event was collected during a storm event, February 2011. There were no exceedances of the diazinon WQTL in samples collected from Dry Creek @ Rd 18 during 2011 or 2012 MPM despite the increased use of diazinon in the subwatershed. The PUR data indicate an increasing trend in pounds of diazinon applied in the subwatershed since 2007. The greatest amount of diazinon was applied in 2008 (425 lbs AI across 799 acres) and the lowest amount of diazinon applied was in 2010 (16 lbs AI across 33 acres). Applications in 2011 were higher (616 lbs AI across 862 acres) although no exceedances of the chlorpyrifos WQTL occurred which is likely to be correlated with increased grower awareness and implementation of appropriate management practices. The end of two consecutive years of monitoring during months of past exceedances was February 2012.

Diuron

Diuron is a soluble herbicide applied throughout the year although primarily during the winter season, and is considered to be a high priority constituent under the Coalition's Management Plan. Samples containing diuron exceeded the WQTL twice at the Dry Creek @ Rd 18 site subwatershed; both exceedances occurred during 2008 storm events (January and February).

Since the most recent diuron exceedance in February 2008, samples have been collected for diuron analysis 10 times. One of those samples was collected during a storm event (February 2011). In addition to MPM during months of past exceedances, this site was sampled monthly during normal irrigation and storm monitoring in 2008. The Coalition conducted MPM for diuron in January and February 2011 and 2012. There were no exceedances of the diuron WQTL in any sample collected from Dry Creek @ Rd 18 in the irrigation season of 2008 or during MPM in 2011 and 2012. The end of two consecutive years of monitoring in months of past exceedances was February 2012.

Outreach

The Coalition conducted individual meetings with 17 growers in 2010 and 2011 to review each grower's operation and document current management practices as well as discuss water quality impairments, including diazinon and diuron. The Coalition encouraged growers to evaluate their farming operations to eliminate offsite movement of pesticides, and management practices were recommended that are effective in eliminating agricultural discharges. Targeted growers were contacted again to assess if recommended and/or new practices were implemented.

This subwatershed remains a high priority subwatershed for other constituents and outreach continues with growers who have the greatest likelihood of contributing to those exceedances.

Future Monitoring

Assessment Monitoring is scheduled to begin at this site in 2013 through 2014. During this time, the Coalition will monitor monthly for diazinon and diuron and other high priority constituents to assess water quality.

Justification to Remove Constituents from Dry Creek @ Rd 18 Management Plan

The Coalition's outreach resulted in the implementation of new management practices as well as increased grower awareness of the role of agriculture in causing water quality impairments. Management Plan Monitoring results indicate two consecutive years of no exceedances of the WQTLs for diazinon and diuron. Therefore the Coalition requests that diazinon and diuron be removed from the Dry Creek @ Rd 18 management plan and MPM schedule.

Duck Slough @ Gurr Rd

Constituents Requested to Remove from Management Plan:

- *Ceriodaphnia dubia* water column toxicity

Subwatershed Overview and Monitoring History

Under the current ESJWQC 2008 MRPP, Duck Slough @ Gurr Rd is the Core Monitoring location in Zone 5. Monitoring at Duck Slough @ Gurr Rd began during the irrigation season of 2004 and continued through the fall of 2012. In 2006, 2007 and 2008 irrigation and storm monitoring were conducted. Core constituents were monitored at Duck Slough @ Gurr Rd beginning in the fall of 2008 through 2010. The most recent Assessment Monitoring was initiated in 2011 and is scheduled to occur every third year thereafter (e.g. 2014, 2017). Core Monitoring resumed at this site in 2012 (January through March).

There are two upstream monitoring locations in the Duck Slough @ Gurr Rd subwatershed: Duck Slough @ Hwy 59 and North Slough @ Hwy 59. Upstream monitoring occurred at both sites in 2008 (July and September) for MPM constituents and then ended after the September 2008 monitoring events.

The Duck Slough @ Gurr Rd site subwatershed is one of the Coalition's second set of high priority management plan subwatersheds (focused outreach 2010-2012). The Duck Slough @ Gurr Rd management plan was established in 2007. Management Plan Monitoring for high priority management plan constituents took place at Duck Slough @ Gurr Rd in 2007 (June and July) and at upstream locations in 2008 (June, July and September). During 2009, Core Monitoring took place and no MPM samples were collected. Management Plan Monitoring for high priority management plan constituents occurred from 2010 (Year 1) through 2011 (Year 2) during months of past exceedances. In 2012 (Year 3), Coalition MPM at Duck Slough @ Gurr Rd occurred in February and March only.

The Coalition identified growers with the greatest likelihood of contributing to the water quality impairments. The Coalition contacted these growers in 2010 to document their existing management practices and encouraged the implementation of additional management practices designed to eliminate water quality impairments in Duck Slough @ Gurr Rd. The Coalition followed up with targeted growers in 2011 determine which additional management practices were implemented.

Constituent Monitoring Results and Sourcing

***Ceriodaphnia dubia* water column toxicity**

C. dubia water column toxicity is indicative of pesticides, such as chlorpyrifos and diazinon; there have been three instances of *C. dubia* toxicity in the Duck Slough @ Gurr Rd site subwatershed. All three of the *C. dubia* toxicities occurred during 2006 storm monitoring events, once in February (37% survival compared to the control) and twice in March (35% and 42% compared to the control). The TIEs initiated for the storm events indicated toxicity was lost during the baseline analysis. The 2006 toxicities did not coincide with pesticide exceedances at the site. *C. dubia* water column toxicity did not occur during any monitoring event during 2007-2008, 2011 Assessment Monitoring or 2012 MPM (February and March).

Since the last toxicity in March 2006, the Coalition conducted two consecutive years of monitoring with no *C. dubia* water column toxicity. Monitoring for *C. dubia* toxicity has occurred 35 times (one of those events was dry) during the storm and irrigation seasons of 2007-2008, Assessment Monitoring in 2011, and MPM in 2012. No exceedances of the chlorpyrifos WQTL occurred during any monitoring event since March 2006. The end of two consecutive years of monitoring during months of past exceedances was March 2012.

Outreach

The Coalition initiated outreach in 2007 and took several actions to address water quality impairments in the Duck Slough @ Gurr Rd subwatershed. The Coalition conducted individual meetings with six targeted growers in 2010 to review each grower's operation and document their existing management practices as well as discuss water quality impairments. The Coalition encouraged growers to evaluate their farming operations to eliminate offsite movement of pesticides. Management practices were recommended if they could be effective in eliminating agricultural discharges. All six targeted growers were contacted again in 2011 to assess if recommended and/or new practices were implemented.

The Coalition continues to provide outreach to all members within the Duck Slough @ Gurr Rd site subwatershed. Through grower notifications and meetings, members continue to be informed of water quality results, management practices to eliminate water quality concerns, availability of funding to assist in the implementation of management practices, results of special studies of management practice efficacy, and management practice implementation and tracking activities. Duck Slough @ Gurr Rd remains a high priority subwatershed for other constituents and outreach continues with growers who have the greatest likelihood of contributing to exceedances.

Future Monitoring

Duck Slough @ Gurr Rd is scheduled to resume Core Monitoring in 2013. Assessment Monitoring takes place every third year and is scheduled to occur again in 2014. Management Plan Monitoring will continue to take place through 2013 for high priority constituents during months of past exceedances as necessary to assess water quality.

Justification to Remove Constituents from Duck Slough @ Gurr Rd Management Plan

Management Plan Monitoring results indicate at least two consecutive years of no exceedances for *C. dubia* water column toxicity. The Coalition believes its outreach in the Duck Slough @ Gurr Rd subwatershed will continue to contribute to grower awareness regarding potential agricultural water quality impairments. Monthly Assessment Monitoring in 2014 will include the monitoring of *C. dubia* water column toxicity and will allow the Coalition to further evaluate water quality at the Duck Slough @ Gurr Rd subwatershed. Therefore, the Coalition requests that *C. dubia* water column toxicity be removed from the Duck Slough @ Gurr Rd management plan and MPM schedule.

Highline Canal @ Highway 99

Constituents Requested to Remove from Management Plan:

- *Hyalella azteca* sediment toxicity
- *Selenastrum capricornutum* water column toxicity

Subwatershed Overview and Monitoring History

The Highline Canal @ Hwy 99 site subwatershed is the Core Monitoring location in Zone 3. The Coalition initiated monitoring at the site during the irrigation season of 2005 and monitored continually through March 2012. Core Monitoring took place at the site from October 2008 through 2010. Assessment Monitoring occurred at the site in 2011 and will occur again every third year (e.g. 2014, 2017). In addition, MPM occurred at the Highline Canal @ Hwy 99 site from 2007 through March 2012.

Highline Canal @ Hwy 99 is one of the Coalition's second set of high priority management plan subwatersheds (focused outreach 2010-2012). The Coalition contacted the growers in 2009 and 2010 to document their existing management practices and encourage the implementation of additional management practices designed to eliminate water quality impairments. The Coalition followed up with targeted growers in 2011 to determine which additional management practices were implemented.

Constituent Monitoring Results and Sourcing

Hyalella azteca sediment toxicity

Toxicity to *H. azteca* occurred six times at Highline Canal @ Hwy 99. The first toxic sample was collected in September 2005 (90% compared to the control). Two toxic samples were collected in 2006 during August and September (90% and 80% compared to the control; respectively), and three toxic samples were collected in 2008 in March, August and October (90%, 94% and 92% compared to the control; respectively). Of the six toxic samples, only the September 2006 sample (80% compared to the control) was considered ecologically significant since the percent survival of Hyalella in sediment from the site compared to the control was greater than 80%. The September 2006 and October 2008 sediment toxicity was from a resampling event.

Starting in 2007, monitoring for sediment toxicity took place twice a year, during the storm season (between March 1 and April 30) and during the irrigation season (between August 15 and October 15). Since the toxicity in August 2008, the Coalition monitored for *H. azteca* four times and none of the samples were toxic (MPM in September 2010, March and September 2011, and March 2012). March 2012 was the end of two consecutive years of monitoring during months of past exceedances.

Selenastrum capricornutum water column toxicity

Water column toxicity to *S. capricornutum* is indicative of herbicides, algaecides or fungicides in surface waters. Since there were exceedances of the WQTLs for both copper and diuron in the past, *S. capricornutum* was categorized as a high level priority constituent. *S. capricornutum* water column

toxicity occurred four times in the Highline Canal @ Hwy 99 subwatershed, once in 2006 (March storm event) and three times in 2008 (February storm event, April and May). The first toxicity to *S. capricornutum* (2% growth compared to control) occurred during storm monitoring in March 2006, the retest was run by the laboratory outside of hold time and therefore the cause of toxicity could not be determined. The three toxic samples in 2008 occurred in February, April and May (72%, 63% and 76% growth compared to control; respectively); none of the relevant resampling events were toxic and TIEs were not required. February 2008 *S. capricornutum* toxicity coincided with an exceedance of copper.

Since the most recent toxicity in May 2008, the Coalition monitored Highline Canal @ Hwy 99 20 times for *S. capricornutum* toxicity and none of the samples resulted toxicity. Sampling for *S. capricornutum* toxicity included Normal Monitoring for the remainder of the irrigation season in 2008, MPM in 2010, Assessment Monitoring in 2011 and MPM in 2012 (January through March). The end of two consecutive years of monitoring during months of past exceedances was March 2012.

Outreach

The Coalition conducted individual meetings with 10 growers in 2009 and 2010 to review each grower's operation and document their existing management practices as well as discuss water quality concerns. The Coalition encouraged growers to evaluate their farming operations to eliminate offsite movement of pesticides and recommended implementing new management practices when it appeared they could be effective in eliminating discharges. Targeted growers were contacted again the next year to determine if recommended and/or new practices were implemented.

The Coalition continues to provide outreach to all members within the Highline Canal @ Hwy 99 site subwatershed. This subwatershed remains a high priority subwatershed for other constituents and outreach will continue with growers through at least 2012. In addition, the upstream Highline Canal @ Lombardy Rd subwatershed is scheduled for focused outreach beginning in 2013, which should lead to further improvement of the water quality in the downstream reach of Highline Canal.

Future Monitoring

Core Monitoring will resume at Highline Canal @ Hwy 99 in 2013. In addition, Assessment Monitoring is scheduled every third year, starting in 2014, and will include monthly analysis of *S. capricornutum* water column toxicity and *H. azteca* sediment toxicity.

Justification to Remove Constituents from Highline Canal @ Hwy 99 Management Plan

Monitoring results indicate two consecutive years with no exceedances of the WQTLs for *S. capricornutum* water column toxicity and *H. azteca* sediment toxicity. The Coalition therefore requests that *S. capricornutum* and *H. azteca* sediment toxicity testing be removed from the Highline Canal @ Hwy 99 management plan and MPM schedule. In addition, future Assessment Monitoring in 2014 for all constituents will provide the Coalition with data to continue to evaluate water quality in the Highline Canal @ Hwy 99 subwatershed.

Highline Canal @ Lombardy Rd

Constituents Requested to Remove from Management Plan:

- Chlorpyrifos
- *Ceriodaphnia dubia* water column toxicity
- *Hyalella azteca* sediment toxicity

Subwatershed Overview and Monitoring History

The Highline Canal @ Lombardy Rd site subwatershed is an Assessment Monitoring location in the Highline Canal @ Hwy 99 Zone (Zone 3) and is located upstream of the Highline Canal @ Hwy 99 site. Monitoring was initiated at this site during the 2005 storm season and continued through the 2008 irrigation season. Additional MPM occurred at the site in 2007 and 2008 and MPM during months of past exceedances was conducted in 2009 and 2010. Assessment Monitoring occurred at Highline Canal @ Lombardy Rd from 2011 through 2012. The Coalition initiated outreach and education in the Highline Canal @ Lombardy Rd subwatershed in 2007 and it continues to the present. The Highline Canal @ Lombardy Rd subwatershed is one of the Coalition's fifth set of high priority management plan subwatersheds (focused outreach 2013-2015).

Constituent Monitoring Results and Sourcing

Chlorpyrifos

Samples collected from the Highline Canal @ Lombardy Rd subwatershed exceeded the chlorpyrifos WQTL six times; twice during storm sampling in 2006 (March), once in 2007 (July), twice in 2008 (January and August), and once in 2010 (January).

Since the most recent exceedance in January 2010, the Coalition has monitored for chlorpyrifos 22 times during MPM for chlorpyrifos in 2010 (February) and Assessment Monitoring occurred during every month in 2011 (one dry event in December) and 2012 (data through September). There were no exceedances of the chlorpyrifos WQTL in any of the monitoring events including MPM and Assessment Monitoring from 2010 through 2012. In addition, the PUR data indicate a steady decline in chlorpyrifos use in the Highline Canal @ Lombardy Rd subwatershed since 2007. The greatest amount of chlorpyrifos use occurred in 2007 (23,034 lbs AI across 21,065 acres) the lowest use was in 2011 (7,221 lbs AI across 3521 acres). Since grower outreach, each year chlorpyrifos use has declined in pounds applied and acres treated in the subwatershed. The end of two consecutive years of monitoring with no exceedances was August 2012.

***Ceriodaphnia dubia* water column toxicity**

C. dubia water column toxicity is indicative of pesticides, such as chlorpyrifos and diazinon; there have been six instances of *C. dubia* toxicity in the Highline Canal @ Lombardy Rd site subwatershed. Two of the *C. dubia* toxicities occurred during irrigation season of 2006, in June and September (65% and 39% survival compared to the control; respectively); toxicity for the September event was not persistent in resampling event or during the TIE. Two toxicities occurred during the storm season of 2007 in February

and in the March resampling event (50% and 0% compared to the control; respectively); the TIE indicated that the sample lost all toxicity. Two toxicities occurred during the storm season of 2008 in January, the second was a resampling event where toxicity was persistent (40% and 30% compared to the control); the TIE initiated for the first January toxicity indicated that pyrethroid insecticides were the cause of toxicity and the *C. dubia* water column toxicity coincided with an exceedance of the chlorpyrifos WQTL once during the January 2008 sampling event. *C. dubia* water column toxicity did not occur during any monitoring event for the remainder of 2008 Normal Monitoring, 2010 MPM or 2011-2012 Assessment Monitoring.

Since the last toxicity in January 2008, the Coalition has conducted two consecutive years of monitoring with no *C. dubia* water column toxicity. A total of 35 monitoring events have occurred for *C. dubia* toxicity since the last exceedance (one dry event) during the storm and irrigation seasons of 2008, MPM in 2010 and Assessment Monitoring in 2011 and 2012. Chlorpyrifos was sampled during 2007-2008 Normal Monitoring and during 20112012 Assessment Monitoring, and no exceedances of the chlorpyrifos WQTL occurred. The end of two consecutive years of monitoring during months of past exceedances was August 2012.

Hyalella azteca sediment toxicity

Toxicity to *H. azteca* occurred seven times at Highline Canal @ Lombardy Rd. Toxicity occurred in May during 2005 and 2006 (74% and 50% compared to the control; respectively). Toxic samples were collected in 2007 during August and the September resample (92% and 55% compared to the control; respectively), and three toxic samples were collected in 2008 in March, August and the October resample (91%, 62% and 82% compared to the control; respectively). Of the toxic samples, toxicity was persistent twice.

Since the last toxic sample was collected in October 2008, the Coalition has monitored for *H. azteca* toxicity four times and none of the samples were toxic to *H. azteca*. Since the toxicity in August 2008, there have been two consecutive years of monitoring with no *H. azteca* toxicity and the end of two consecutive years of monitoring during months of past exceedances was September 2012.

Outreach

As mentioned above, the Coalition initiated general outreach in 2007 and has taken several actions to address water quality impairments in the Highline Canal @ Lombardy Rd subwatershed. The Coalition will continue to provide outreach to all members within the Highline Canal @ Lombardy Rd subwatershed. In addition, this subwatershed becomes a high priority subwatershed in 2013 for other constituents and outreach will continue with growers with the greatest likelihood of contributing to past exceedances.

Future Monitoring

Highline Canal @ Lombardy Rd will be monitored for all constituents again during Assessment Monitoring scheduled to occur from 2017 through 2018. In addition, MPM is scheduled to take place for other high priority constituents in 2013 during months of past exceedances to assess water quality.

Justification to Remove Constituents from Highline Canal @ Lombardy Rd Management Plan

Monitoring in Highline Canal @ Lombardy Rd resulted in two consecutive years without chlorpyrifos, *C. dubia* water column toxicity and *H. azteca* sediment toxicity exceedances. Therefore the Coalition requests that chlorpyrifos, *C. dubia* and *H. azteca* sediment toxicity testing be removed from the Highline Canal @ Lombardy Rd management plan and MPM schedule.

The Highline Canal @ Lombardy Rd subwatershed will begin its first year of focused outreach to address high priority constituents within its management plan in 2013, and actions will include initial and follow up contacts with targeted growers and MPM. The Coalition believes its continued contact with growers who have the greatest potential to impact water quality will prevent future chlorpyrifos, *C. dubia* water column toxicity and *H. azteca* sediment toxicity exceedances.

Livingston Drain @ Robin Ave

Constituents Requested to Remove from Management Plan:

- Lead (Total and Dissolved)

Subwatershed Overview and Monitoring History

Under the current 2008, MRPP, the Livingston Drain @ Robin Ave is a rotating Assessment Monitoring location within the Merced River @ Santa Fe Zone (Zone 4). Sampling was initiated at Livingston Drain @ Robin Ave during the irrigation season of 2007 and continued through irrigation season of 2008. Assessment Monitoring under the current 2008 MRPP at Livingston Drain @ Robin Ave is scheduled to occur in 2021 through 2022.

The Livingston Drain @ Robin Ave site subwatershed is one of the Coalition's third set of high priority management plan subwatersheds (focused outreach 2011-2013). Management Plan Monitoring for lead at Livingston Drain @ Robin Ave took place in 2011 and 2012 during months of past exceedances. There were no samples collected at this site during 2009 or 2010. The Coalition identified growers with the greatest likelihood of contributing to the water quality impairments (growers farming parcels with the potential for direct drainage or drift to the creek and growers who have applied high priority constituents in the past). The Coalition contacted these growers in 2011 to document current management practices and encouraged the implementation of additional practices designed to eliminate water quality impairments in Livingston Drain @ Robin Ave. The Coalition contacted targeted growers in 2012 to determine which additional management practices were implemented.

Lead

Lead is a legacy contaminant from various sources, such as old applications of lead arsenate pesticides, deposition from leaded gasoline, and disposal of lead-containing products including paints, electronic components, lead pipes, and batteries. Since lead arsenate pesticide use was banned before the PUR system was initiated, no data exist to assist in the sourcing of past agricultural applications of lead. Given the number of potential sources and since lead is no longer applied for agricultural use, the Coalition categorized lead as a low priority constituent (priority E). In October 2008, the Coalition began monitoring for both the total and dissolved fractions to better characterize contamination and more accurately estimate the bioavailable fraction of metals in the water column. Samples from the Livingston Drain @ Robin Ave subwatershed exceeded the WQTL twice during 2008 (January and February).

Since the most recent exceedance in February 2008, the Coalition has monitored Livingston Drain @ Robin Ave 10 times (during the 2008 irrigation season and January and February of 2011 and 2012). Two of the 10 monitoring events were dry. Of the eight samples collected for lead analysis, no exceedances occurred. The end of two consecutive years of monitoring during months of past exceedances was February 2012.

Outreach

The Coalition initiated outreach in 2007 and has since taken several actions to address water quality concerns in Livingston Drain @ Robin Ave subwatershed. The Coalition conducted individual meetings with 11 growers in 2011 to review each grower's operation, document current management practices, and discuss water quality impairments, including lower priority management plan constituents. The Coalition encouraged growers to evaluate their farming operations to eliminate offsite movement of pesticides. Management practices were recommended if they could be effective in eliminating/reducing agricultural discharges. All targeted growers were contacted again in 2012 to determine if recommended and/or new practices were implemented.

The Coalition continues to provide outreach to all members within the Livingston Drain @ Robin Ave site subwatershed. Through grower notifications and meetings, members continue to be informed of water quality results, relevant management practices to address water quality concerns, availability of funding for management practice implementation, results of studies of management practice efficacy, and management practice implementation and tracking activities. In addition, Livingston Drain @ Robin Ave remains a high priority subwatershed for other constituents and outreach continues with growers who have the greatest likelihood of contributing to exceedances.

Future Monitoring

Assessment Monitoring is scheduled for Livingston Drain @ Robin Ave in 2021 through 2022. During this time, the Coalition will monitor monthly for lead (total and dissolved).

Justification to Remove Constituent from Livingston Drain @ Robin Ave Management Plan

Based on outreach survey and follow up results, targeted growers in the Livingston Drain @ Robin Ave subwatershed implemented management practices and improved water quality as reflected by the absence of exceedances of lead. Management Plan Monitoring results indicate two consecutive years of no exceedances for lead (total and dissolved). Therefore the Coalition requests that lead be removed from the Livingston Drain @ Robin Ave management plan and MPM schedule.

Prairie Flower Drain @ Crows Landing Rd

Constituents Requested to Remove from Management Plan:

- *Hyalella azteca* sediment toxicity

Subwatershed Overview and Monitoring History

The Prairie Flower Drain @ Crows Landing Rd subwatershed is the Core Monitoring location in Zone 2 (Prairie Flower Drain @ Crows Landing Rd Zone). Monitoring at Prairie Flower Drain @ Crows Landing Rd was initiated during the storm season of 2005 and continued through March of 2012. Assessment Monitoring at this site occurred in 2011 and is scheduled to recur every third year (2014, 2017). Core Monitoring will resume at this location in 2013. Management Plan Monitoring was initiated at the site during the 2007 irrigation season. Upstream monitoring at Prairie Flower Drain @ Morgan Rd occurred during the irrigation season of 2008 for high priority constituents. Management Plan Monitoring occurred during months of past exceedances at the Prairie Flower Drain @ Crows Landing Rd site from 2009 through March 2012 and is scheduled again in 2013.

The Prairie Flower Drain @ Crows Landing Rd site subwatershed is one of the Coalition's first set of high priority management plan subwatersheds (focused outreach 2008-2010). In addition to Management Plan Monitoring, the Coalition identified growers with the greatest likelihood of contributing to the water quality impairments (growers farming parcels with the potential for direct drainage to the creek, growers who applied high priority constituents or those associated with toxicity in the past). The Coalition contacted these growers in 2009 (an additional new member was contacted in 2010) to document their current management practices and encourage the implementation of additional practices designed to eliminate water quality impairments. The Coalition followed up with all targeted growers to determine which additional management practices were implemented.

Constituent Monitoring Results and Sourcing

***Hyalella azteca* sediment toxicity**

Toxicity to *H. azteca* occurred six times at Prairie Flower Drain @ Crows Landing Rd. Toxicity occurred once in 2005 during September (86% compared to the control), once in May 2006 (92% compared to the control), twice in 2007 during August and September resampling event (59% and 17% compared to the control; respectively) and twice in 2008 during August and October resampling event (90% and 86% compared to the control; respectively. Of the six toxic samples, toxicity was persistent twice.

Since the last toxicity in October 2008, the Coalition has monitored for toxicity to *H. azteca* four times and none of the samples were toxic. Since the most recent toxicity in October 2008, there have been two consecutive years of monitoring with no *H. azteca* toxicity. The end of two consecutive years of monitoring during months of past exceedances was March 2012.

Outreach

The Coalition conducted individual meetings with 11 growers in 2009 to review each grower's operation and document their current management practices as well as discuss water quality impairments, including *H. azteca* sediment toxicity. The Coalition encouraged growers to evaluate their farming operations in order to eliminate offsite movement of pesticides, and management practices were recommended if they could be effective in reducing agricultural discharges. Targeted growers were contacted the next year to determine if recommended and/or new practices were implemented.

The Coalition continues to provide outreach to all members within the Prairie Flower Drain @ Crows Landing Rd site subwatershed. Through grower notifications and meetings, members continue to be informed about water quality results, relevant management practices that eliminate water quality impairments, availability of funding for management practice implementation, results of studies of management practice efficacy, and management practice implementation and tracking activities. In addition, this subwatershed remains a high priority subwatershed for other constituents and focused outreach continues with growers who have the greatest likelihood of contributing to those exceedances.

Future Monitoring

Assessment Monitoring occurred at Prairie Flower Drain @ Crows Landing Rd in 2011 and is scheduled to recur every third year (2014, 2017). During these periods, the Coalition will monitor for *H. azteca* sediment toxicity once twice a year, once during a storm season (between March 1 and April 30) and once during the irrigation season (between August 15 and October 15).

Justification to Remove Constituents from Prairie Flower Drain @ Crows Landing Rd Management Plan

Management Plan Monitoring results indicate two consecutive years with no *H. azteca* sediment toxicity. Therefore the Coalition requests that *H. azteca* sediment toxicity be removed from the Prairie Flower Drain @ Crows Landing Rd management plan and MPM schedule.

The Coalition believes its outreach within the subwatershed will continue to keep growers aware of water quality impairments due to agriculture. In addition, the Coalition will continue MPM for other high priority constituents and is scheduled to conduct monthly Assessment Monitoring for all constituents in 2014.